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Studies in Statistics.

FROM THE COMMITTEE ON STATISTICS.

Evening Session, December 27.

REPORT OF THE COMMITTEE.

BY HON. CARROLL D. WRIGHT, UNITED STATES COMMISSIONER OF LABOR.

During the last twenty years the volume of official statistics has grown to large proportions. As to quantity, the work of American statisticians is equal to that of any other country; as to quality, their work still falls somewhat below the scientific characteristics which belong to continental efforts. Yet in respect to quality they are making rapid progress.

Individual States are contributing almost as freely as the Federal Government to the volume of statistics. The ordinary routine reports of various departments in the different States and of the Federal Government, relating to commerce, finance, education, railroads, charities, crime, pauperism, etc., made for the use of legislators, furnish innumerable volumes of high statistical value. In addition to these regular sources, twenty-four States have established bureaus of statistics of labor. The titles vary, but the functions of the offices are similar. These bureaus have now issued 136 volumes relating to the

industrial and social statistics of their respective States, while the Department of Labor of the Federal Government has issued six volumes, making in all 142 volumes of statistical reports almost exclusively confined to economics and social science. There has been a constant elevation in the character of the reports of these various bureaus and departments.

This is the year of the decennial enumeration of the Federal Government, the general features of which are practically in accordance with the magnificent work projected by our honored President, General Walker, for the Tenth Census, that of 1880. There has been improvement made in some of the schedules of the Eleventh census, although the scope of its inquiries has not been greatly enlarged. For the benefit of this Association, which deals in economic matters, it is desirable that a few of its new features be noticed.

The general schedule for manufactures will bring out many economic features not heretofore ascertainable under Federal censuses. These features relate almost entirely to the capital invested and to the labor and wages in our manufactories. The part of the schedule relating to capital invested shows clearly the value of the inquiries.

The influence of credit capital has not been demonstrated in any of our Federal censuses; but in the Eleventh census this influence will be ascertained with approximate accuracy for the whole country.

In reference to labor and wages the schedule will offer the opportunity for some very valuable comparisons, and will give information by which one can ascertain where the great bulk of earnings fall,

whether upon those receiving small weekly wages or large, and whether the greater number is below the usual average stated, or above.

An entirely novel feature has been introduced into the Eleventh census by the Act providing for it, and by subsequent acts of Congress, relating to individual indebtedness. There is great interest in the question as to whether the homes and farms of the country are owned by the occupants, and whether they are under mortgage to any great extent. No more valuable inquiries could be made by the Federal Government, and they are of such economic importance that the committee desires to call particular attention, not only to the general character of the inquiries, but what they may lead to. The Division of Farms, Homes and Mortgages of the Eleventh Census is investigating the mortgage indebtedness upon all real estate, the ownership of farms and homes, and the indebtedness secured by those that are occupied by owners. The information on these points is brought out in two ways: 1. By inquiries upon the Population schedule, which inquiries are made concerning each family and each farm visited; 2. By transcripts taken from the registries of deeds or kindred offices where mortgages, under whatever name they may exist, are recorded, this work being done by special agents working with uniform blanks and under specific instructions.

The most comprehensive conclusions warranted by the facts gathered will relate to the general character of debt; not whether it is better to own real estate and owe for it than to own it free of debt, but whether it is better to own it encumbered than to hold it under a tenancy; that is to say, an answer

may be expected to the question whether debt is necessarily an evil and grows out of unfortunate conditions, and whether if evil follows the incurring of debt the evil may not be due to the miscalculations of the borrower and his inability to forecast the future. Comparisons will be made between urban and country populations, disclosing the relationship of debt to industry, improvement, enterprise and speculation on the one hand, and to agriculture, conservatism, comparative poverty and stationery conditions on the other. Light will be thrown upon the controversy whether debt must be a misfortune or whether the legal instruments that secure indebtedness are not means for distributing wealth.

A psychological interpretation of indebtedness will be offered. This will consider the motives for entering into debt and cover the whole range of mental causation from which it results. No preliminary assumptions were made beyond the possibility of finding that debt has a volitional basis in addition to the one popularly accepted that it is the compulsory outgrowth of adverse circumstances and the consequent of misfortune. The statistics that relate to this branch of the investigation may be expected to demonstrate how largely men enter into debt for the purpose of getting possession of wealth with the prospect of increasing their comforts and enjoyments.

Comparison of debt will be made with density of population and with real estate values, and it may be shown whether or not the principal portion of real estate mortgage indebtedness is made possible by high real estate values, just as these follow the

subdivision of land, and this follows density of population.

In the tabulation will be presented results showing the number and amount of real estate mortgages recorded during the ten years, 1880-89, with distinction between urban and non-urban real estate, the presentation being by years and by counties; the number of acres and of lots mortgaged annually will be shown; the amount of mortgage indebtedness existing January 1, 1890, and upon the same date in each of the preceding four years; a classification of mortgages according to their amounts; the annual interest charge; evidence of the speed with which mortgage debt is paid in part; its average duration; the mortgage debt owed and owned by private corporations; and various relationships of some of these facts.

The committee has taken great interest in the progress of this work relating to individual indebtedness. From careful inquiries it is believed that the results, while they will not be perfectly accurate, and cannot be, under the nature of things, will not vary more than five or ten per cent. from the actual truth. Should they vary from fifteen to twenty per cent., the results would still be of incalculable value, and especially should the inquiries be repeated at any future period. It is probably true that this class of work could be much better and more efficiently performed through the State governments, but the States have not yet seen fit to engage very largely in census-taking on any very broad scale.

The committee also regrets that little progress is apparent in the more complete registration of births, deaths, and marriages, without which vital statistics

in the United States must always suffer from incompleteness.

Some system might be adopted by the Federal Government by which the coöperation of the individual State could be secured. An attempt was made in this direction through the act providing for the Tenth census, but the limitations of the law prevented its general acceptance. The Federal Government could save much expense by a wise system of coöperation with State Governments, wherein it should bear its proper portion of expense. Such a system, however, if erected, would lead inevitably and logically to the establishment of a permanent Census Bureau, a result which would meet the approval of most statisticians, and would, it is believed, meet the warm endorsement of the business interests of the country. Under a permanent Census Bureau the economic questions now canvassed by the Census Office would not be taken up during the same year that the great enumeration of the people takes place. The present system in itself is almost sufficient to destroy the value of the miscellaneous investigations of the Census Bureau. A temporary bureau, organized every ten years, is obliged suddenly to organize its force, then flood the country with its schedules, and it soon finds itself actually "snowed under" with a mass of raw material that it is quite impossible to digest in any very complete way. Statistical compilations, no matter how large or extensive they may be, must, before publication, come under the hand and the mind of some one man, and this reviewing process is impossible under the present system. Under a permanent Census Bureau

the economic statistics would be given a value not now known.

The popularization of statistical knowledge has a dangerous side to it. Care should be taken that the misuse of statistics be met promptly by accurate analyses. In this direction it is gratifying to know that many of our great newspapers are paying more attention to the accurate use of statistics, and this use is rapidly retiring the statistical mechanic—the man who is ready to distort statistical statements in order to show or prove particular theories. It is almost a daily occurrence that clear, accurate, and most carefully-compiled statistics are used to prove opposite conclusions. This is done by a jugglery of figures, and is not the fault of the figures themselves. The statistician's gratification comes in the knowledge that such a perversion of accurate statistics is usually discovered quickly and the perpetrator of the perversion exposed. Formerly the perverted statements were lodged in the minds of men, because the interest in statistics was not sufficient to lead either to their disavowal or to the exposition of the attempted fraud.

In conclusion the committee reports that in its opinion the progress of statistical investigation and statistical science in the United States is most encouraging. The work of our offices is viewed with increasing respect abroad, and is exciting widespread interest at home. We are gaining an increased number of trained, practical statisticians in our offices, and more competent private critics and theorists in our colleges and among our educated and thoughtful men. It is to be hoped that the two movements will go on hand in hand, and that as our

statistical information becomes more extensive it will be compelled to raise itself to a high standard of excellence by rigid, impartial, and scientific criticism.

THE SOCIAL SIGNIFICANCE OF STREET RAILWAYS.

BY CHARLES H. COOLEY OF THE UNITED STATES CENSUS.

Rapid transit has hitherto been discussed by economists chiefly in connection with other questions, and therefore in a somewhat desultory and one-sided manner. There is need that street railway transportation should be studied apart from those questions with which it is usually connected; and that an attempt should be made to gain a more adequate and scientific conception of its social function.

This subject will be considered under three heads. First, it will be attempted to formulate a more comprehensive conception of the function of city transportation; secondly, the increasing need of the efficient performance of this function will be shown; thirdly, various factors upon which efficiency depends will be discussed.

We must recognize in the system of urban transportation a definite social organ, having for its function the distribution of population about industrial centres. It is an industrial necessity that men shall work in dense aggregates. Humanity requires that they shall not live in dense aggregates. The conditions of industrial life are such that the number of aggregated workers necessarily increases relatively to the number of scattered workers. There is then,